

Name \_\_\_\_\_

**Investigating What Makes Things Sink or Float**  
**Comparing Mass, Volume, and Density**

| Cube                          | Prediction<br>(Float or Sink) | Mass<br>(g) | Volume<br>(cm <sup>3</sup> ) | Density<br>(g/cm <sup>3</sup> ) | Float or Sink |
|-------------------------------|-------------------------------|-------------|------------------------------|---------------------------------|---------------|
| Wood 1-<br>Oak                |                               |             |                              |                                 |               |
| Wood 2-<br>Poplar             |                               |             |                              |                                 |               |
| Wood 3-<br>Pine               |                               |             |                              |                                 |               |
| White<br>Plastic<br>(Nylon)   |                               |             |                              |                                 |               |
| Clear<br>Plastic<br>(Acrylic) |                               |             |                              |                                 |               |
| Black<br>(Steel)              |                               |             |                              |                                 |               |
| Silver<br>Colored<br>(AL)     |                               |             |                              |                                 |               |
| Gray-<br>Colored<br>(PVC)     |                               |             |                              |                                 |               |
| Copper-<br>Colored            |                               |             |                              |                                 |               |
| Brass-<br>Colored             |                               |             |                              |                                 |               |

| Cube Combinations<br>(up to 5 cube combos) | Prediction<br>(Float or Sink) | Mass<br>(g) | Volume<br>(cm <sup>3</sup> ) | Density<br>(g/cm <sup>3</sup> ) | Float or Sink |
|--|-------------------------------|-------------|------------------------------|---------------------------------|---------------|
|  |                               |             |                              |                                 |               |
|  |                               |             |                              |                                 |               |
|  |                               |             |                              |                                 |               |
|  |                               |             |                              |                                 |               |
|  |                               |             |                              |                                 |               |

Now, graph the mass and volume of your cube combinations on your graph paper AND the class transparency. Use “X” to represent any combinations that floated and “O” to represent any combinations that sank. Then, answer the following questions:

1. What does the line on the graph represent?
2. Where do the “X”s appear in relation to this line? What does this tell you?
3. Where do the “O”s appear in relation to this line? What does this tell you?

4. Using the data collected from this lab, explain why some of the cubes floated while others sank. Use the terms MASS, VOLUME, and DENSITY in your explanation. Support your answer with specific data.